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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/823,410	03/30/2001	Hon Wah Chin	21216-05044	8753
47372	7590	07/12/2005	EXAMINER	
BIRCH, STEWART, KOLASCH & BIRCH, LLP 8110 GATEHOUSE ROAD SUITE 100 EAST FALLS CHURCH, VA 22042-1248			TSE, YOUNG TOI	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/823,410

**Applicant(s)**

CHIN, HON WAH

**Examiner**

YOUNG T. TSE

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>08022001</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: the reference signs "468", "508", "514" and "604" shown in Figures 4B, 5, and 6 are not mentioned in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: in paragraph [0024], line 1, "n one" should be "In one"; paragraph [0025], line 4, "220" should be

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"221"; in paragraph [0029], line 3, "338, 336, 334, and 332" should be "332, 334, 336, and 338". Appropriate correction is required.

### ***Claim Objections***

3. Claim 2 is objected to because of the following informalities: in claim 2, line 8, "an analog" should be "an analog value". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-2, and 7-17 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The configuration of claims 1 and 8 does not correspond to the disclosure of the drawings. For example, both claims 1 and 8 recite a measurement node to determine the measured width voltage of a minimum pulse width. However, as shown in Figure 2B or Figure 3 and discussed in the specification, the measurement node measures each measured width voltage of a plurality of cells.

The specification fails to describe the claimed subject of claims 2, 7, and 17 that a device or method of determining a range within digital value falls, each range being associated with a different data rate.

Wherein the dependent claims 9-16 depend upon the independent claim 8.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-7, 10-13, and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1 (line 7), claim 2 (lines 7 and 8), claim 7 (line 3), claim 10 (line 3), and claim 17 (lines 6-7), the phrases "the minimum pulse width", "the digital value falls", "the capacitor", and "the duration of the pulse" all lack antecedent basis.

In claim 3, the determining step lacks cooperation or connection with the measuring step.

Claim 12 recites each measuring cell of the plurality of measuring cells further comprises a switch connected to the RC circuit for setting the voltage across the capacitor in the RC circuit to a predetermined level when a pulse duration is not being measured. However, it is unclear which switch is related to as shown in Figure 2A since each measurement cell includes four different switches.

Wherein the dependent claims 4-6, 11, and 13-16 depended upon claims 1 and 10.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claims 1 and 3 are rejected under 35 U.S.C. 102(e) as being anticipated by Holcombe et al.

Holcombe et al. (U.S. Patent No. 6,360,090) discloses a method and apparatus in Figure 1 or Figure 2 for receiving infrared signals that is better able to receive a data signal in the presence of a noise signal.

With respect to claims 1 and 3, the width of pulses from the input Din (or Dir) is measured by a detect comparator 160 (or AGC peak detector 36) of the RC time constant 146 and 148 (or 28 and 30) to determine a minimum pulse width and use the minimum pulse width of the output pulse Dout to inter the data rate of the input infrared signals. See col. 2, line 56 to col. 3, line 15.

10. Claims 8 and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Botti et al.

Botti et al. (U.S. Patent No. 6,594,309) discloses a digital input PWM power amplifier in Figure 1 includes an oversampling and noise shaping circuit receiving pulse code modulated (PCM) digital input data organized in words of a first number of M bits at

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a bit rate, and outputting PCM digital data organized in words of a smaller number of N bits at a multiple bit rate.

With respect to claim 8, the PCM to PWM converters correspond to the plurality of measuring cells for measuring the width of pulses of the MSB of P-bit PCM data and the LSB of P-bit PCM data from the oversampling and noise shaping circuit and a power stage having a summing node for determining a minimum pulse width of the pulses.

See abstract and col. 6, lines 9-12.

With respect to claim 15, a timing controller (not shown) for controlling the F clocks of the PCM to PWM converters.

***Allowable Subject Matter***

11. Claims 4-6 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

12. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to show or suggest that a method of measuring the width of each pulse from the plurality of pulses comprises the steps of causing a change of voltage across a capacitor for a duration of the pulse resulting in a voltage level of the capacitor for the pulse and measuring the voltage level of the capacitor.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Johnson (U.S. Patent No. 5,675,609) relates to a sinusoidal half-wave pulse or pulse train transmitter-to-receiver information transmission system.

Ito (U.S. Patent No. 6,888,886) relates to an interface apparatus and method for receiving digital data transmitted at any one of a plurality of predetermined transmission rates and identifying the transmission rate of the digital data.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YOUNG T. TSE whose telephone number is (571) 272-3051. The examiner can normally be reached on Monday and Wednesday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The Central FAX Number for the organization where this application or proceeding is assigned is (571) 273-8300.

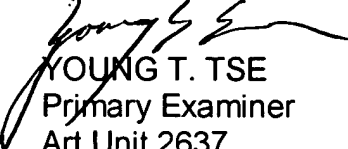
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YOUNG T. TSE  
Primary Examiner  
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